



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|------------------------|---------------------|------------------|
| 09/998,141 | 12/03/2001 | Neil Andrew Stephenson | 20944 | 4598 |
| 27182 | 7590 | 11/13/2003 | EXAMINER | |
| PRAXAIR, INC. LAW DEPARTMENT - M1 557 39 OLD RIDGEBURY ROAD DANBURY, CT 06810-5113 | | | SPITZER, ROBERT H | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1724 | |

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,141

Applicant(s)

STEPHENSON, NEIL ANDREW

Examiner

Robert H. Spitzer

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0806
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. It is noted that Applicants made no comment in their 09 October 2003 Amendment to the restriction requirement made in the first Office action of 28 April 2003, wherein the telephone election to prosecute claims 13-21 was made without traverse. As Applicants have not argued that restriction requirement, it is repeated and made final. Claims 1-12 are withdrawn from further consideration by the Examiner as being drawn to the non-elected invention and must be canceled in Applicants response to this Office action. See MPEP 813.03(a).
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 13-16 are again rejected under 35 U.S.C. 102(b) as being clearly anticipated by the process of MacDougall et al. (5,997,841). See specifically examples 5B,6B,7B and 10.
4. Claim 17 is again rejected under 35 U.S.C. 103(a) as being unpatentable over MacDougall et al. (5,997,841) in view of Coe et al. (5,258,058). The claim differs from the process of MacDougall et al. ('841) in the cation within the zeolite framework being cobalt in place of zinc. Coe et al. ('058) show that the cation can include both cobalt and zinc for placement within a zeolite. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to substitute cobalt for the zinc within the zeolite framework of the zeolite used in the process of MacDougall et al. ('841), in view of the showing of Coe et al. ('058), that cobalt and zinc are from the same group of cations and can be used within the zeolite structure in place of each other.

5. Claims 18-21 are again rejected under 35 U.S.C. 103(a) as being unpatentable over MacDougall et al. (5,997,841) in view of Li et al. (5,584,912). The claims differ from the process of MacDougall et al. ('841) in the zeolite being of the EMT or FAU/EMT type. Li et al. ('912) show that EMT and FAU/EMT types of zeolites can be modified to include a cation such as zinc and used in a process for the separation of nitrogen from a feed gas mixture of air. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to utilize a zeolite of the EMT or FAU/EMT structure type in place of the FAU type zeolite used in the process of MacDougall et al. ('841), in view of the showing of Li et al. ('912), as the FAU structure and the FAU/EMT structure of zeolites would be useable in place of each other, as they are both structure types which would have the required pore opening size for the adsorption of nitrogen from the feed air mixture.

6. Applicant's arguments filed 09 October 2003 have been fully considered but they are not persuasive. Before discussing the Applicants remarks, claim 13, which is labeled "(Once amended)", is not in fact amended at all, as it contains the identical language as the as-filed claim 13. With respect to claims 13-16 and the MacDougall et al. ('841) reference, Applicants argue that while the reference does show the addition of zinc into the framework structure of the zeolite, the reference is only concerned with zeolites of the FAU structure type and is not applicable to the broad range of zeolites covered by Applicants' claims 13-16. With respect to the language of claims 13-16, because they do not limit the zeolite to any specific structure type, they read on the FAU type of zeolites being disclosed in the MacDougall et al. ('841) reference, as well as

every type of zeolite known to date. Claims 13-16 neither contain language which negates the use of FAU type zeolites, which are clearly shown by the disclosure of MacDougall et al. ('841), nor zeolites which are not within the disclosure of MacDougall et al. ('841). With respect to claim 17 and the addition of the Coe et al. ('058) reference, as both MacDougall et al. (841) and Coe et al. ('058) deal with the use of zeolites of the FAU structure type, the replacement of the zinc cation with cobalt is within the teachings of the two references, because cobalt and zinc are from the same group of cations and can be expected to be used for each other within the zeolite structure and provide similar results. As to claims 18-21 and the use of the reference to Li et al. ('912), the same teaches that zeolites of the EMT and FAU/EMT structure types can be modified to include a cation such as zinc and further be used in a process for the separation of nitrogen from a feed gas mixture of air. To utilize that zeolite structure for the FAU structure type of MacDougall et al. ('841) would clearly be within the skill of one working in this zeolite art, because both structure types would have the required pore opening size for the adsorption of nitrogen from a feed air mixture. Any other remarks made by Applicants and not specifically commented on by the Examiner, have been considered.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Applicants' response to this Office action should also include the following editorial changes: page 3, line 12, "ration" should be "ratio", and in line 25, "a" should be "an"; page 4, line 1, "a" should be canceled, in line 8, "discloses" should be "disclose", and in line 10 "ZSM-3." should be "ZSM-3,"; page 5, line 8, "SiAl=1.0" should be "Si/Al=1.0", and in line 28, "adsorbent" should be "adsorbed"; page 7, line 17, "its" should be either "the" or "this", and in line 31, "atoms" should be "atom"; page 9, line 12, "aluminum The" should be "aluminum. The"; page 23, line 3, "ABSTRACT" should be "ABSTRACT OF THE DISCLOSURE"; and, in claim 19, line 1 "a" should be "an".

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert H. Spitzer whose telephone number is (703) 308-3794. The examiner can normally be reached on Monday-Thursday from 5:30 AM to 4:00 PM.

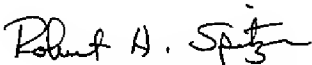
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver, can be reached on (703) 308-1261. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Application/Control Number: 09/998,141
Art Unit: 1724

Page 6

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Robert H. Spitzer
November 10, 2003


Robert H. Spitzer
Primary Examiner
Art Unit 1724
November 10, 2003